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Photoluminescence Properties of $Eu(TTA)_3(Ph_3PO)_2$

O. Bordian¹, V. Verlan¹, M. S. Iovu¹, I. Culeac¹, V. Zubareva², M. Enachescu³, D. Bojin³ and A. Siminel¹

¹*Institute of Applied Physics, Chisinau, Republic of Moldova*

²*Institute of Chemistry, Chisinau, Republic of Moldova*

³*CSSNT, University Politehnica of Bucharest, Bucharest, Romania*

Europium(III) coordination compound $Eu(TTA)_3(Ph_3PO)_2$ (1) { $TTA =$ thenoyltrifluoroacetate, $Ph_3PO =$ triphenylphosphine oxide} has been prepared and characterized. Powder samples of the complex have been characterized by thermogravimetric analysis (TGA), optical transmission and photoluminescence (PL) spectroscopy. PL have been registered for different temperatures in the range 11-300 K. The PL spectra was detected as specific narrow emission bands of internal transitions $4f \rightarrow 4f$ of the Eu^{3+} ion ${}^5D_0 \rightarrow {}^7F_j$ ($j = 0-4$). The major bands are centered at ca 580, 595, 615, 650 and 698 nm. PL data can be interpreted in the framework of the mechanism of energy transfer from the organic ligand matrix to Eu^{3+} ion.